In the Claims

Please amend the following claims as indicated

1.   (Currently Amended) Apparatus for treating tachyarrhythmias, comprising:

　　　means for delivering a first therapy to a patient's heart to treat tachycardia and a second therapy to said patient's heart to treat fibrillation;

　　　means for sensing an electrical signal from said patient's heart indicative of a depolarization of a chamber or chambers of said patient's heart;

　　　means for measuring a time interval between depolarizations;

　　　means for storing the measured depolarization intervals;

　　　means for detecting an occurrence of a tachyarrhythmia based upon the measured depolarization intervals; and

　　　means responsive to the detection of an occurrence of a tachyarrhythmia for discriminating between tachycardia and fibrillation and for selecting between said first and second therapies;

　　　said discrimination and therapy selection means including:

　　　　　(i) means for sorting a predetermined number of the measured depolarization intervals into a plurality of interval range bins;

　　　　　(ii) means for determining the number of measured depolarization intervals within each of the interval range bins;

　　　　　(iii) means for defining a discrimination criterion based on determining whether designated ones of the plurality of interval range bins have at least a predetermined threshold number of measured depolarization intervals within them, wherein the threshold number is set as a value which increases as an inverse function of the length of the intervals between depolarizations; and

(iv) means for triggering delivery of the first therapy if the

discrimination criterion is met and for triggering delivery of the

second therapy if the discrimination criterion is not met.

2.   (Previously cancelled) A device according to claim 1 wherein the deriving

means comprises means for deriving said threshold criterion as a value which

increases as an inverse function of the length of the intervals separating

preceding depolarizations.

3.   (Cancel) The apparatus of claim 1 wherein the means for defining a

discrimination criterion sets a threshold number as a value which increases as an

inverse function of the length of the intervals between depolarizations.

4.   (Currently Amended) Apparatus for treating tachyarrhythmias,

comprising:

        means for delivering a first therapy to a patient's heart to treat tachycardia

and a second therapy to said patient's heart to treat fibrillation;

        means for sensing an electrical signal from said patient's heart

indicative of a depolarization of a chamber or chambers of said patient's

heart;

        means for measuring a time interval between depolarizations;

        means for storing the measured depolarization intervals;

        means for detecting an occurrence of a tachyarrhythmia based upon the

measured depolarization intervals; and

        means responsive to the detection of an occurrence of a

tachyarrhythmia for discriminating between tachycardia and fibrillation and

for selecting between said first and second therapies;

        said discrimination and therapy selection means including:

                (i) means for sorting a predetermined number of the measured

                depolarization intervals into a plurality of interval range bins;

(ii) means for determining the number of measured depolarization intervals within each of the interval range bins;

(iii) means for defining a discrimination criterion based on determining whether designated ones of the plurality of interval range bins have at least a predetermined threshold number of measured depolarization intervals within them, wherein the ~~The apparatus of claim 1 wherein the means for defining a discrimination criterion sets a~~ threshold number is set as a value which increases as an inverse function of a defined percentile of the length of intervals over a sequence of a predetermined number of intervals between depolarizations~~,~~; and

(iv) means for triggering delivery of the first therapy if the discrimination criterion is met and for triggering delivery of the second therapy if the discrimination criterion is not met.

5.   (Currently Amended) Apparatus for treating tachyarrhythmias, comprising:

means for delivering a first therapy to a patient's heart to treat tachycardia and a second therapy to said patient's heart to treat fibrillation;

means for sensing an electrical signal from said patient's heart indicative of a depolarization of a chamber or chambers of said patient's heart;

means for measuring a time interval between depolarizations;

means for storing the measured depolarization intervals;

means for detecting an occurrence of a tachyarrhythmia based upon the measured depolarization intervals; and

means responsive to the detection of an occurrence of a tachyarrhythmia for discriminating between tachycardia and fibrillation and for selecting between said first and second therapies;

said discrimination and therapy selection means including:

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(i) means for sorting a predetermined number of the measured depolarization intervals into a plurality of interval range bins;

(ii) means for determining the number of measured depolarization intervals within each of the interval range bins;

(iii) means for defining a discrimination criterion based on determining whether designated ones of the plurality of interval range bins have at least a predetermined threshold number of measured depolarization intervals within them, wherein the ~~The apparatus of claim 1 wherein the means for defining a discrimination criterion sets a~~ threshold number is set as a value which increases as an inverse function of the 75th percentile of the length of intervals over a sequence of a predetermined number of intervals between depolarizations~~.~~; and

(iv) means for triggering delivery of the first therapy if the discrimination criterion is met and for triggering delivery of the second therapy if the discrimination criterion is not met.

6.   (Cancel) The apparatus of claim 1, further comprising means for triggering delivery of the first therapy if the discrimination criterion is met and for triggering delivery of the second therapy if the discrimination criterion is not met.

7.   (Previously added) The apparatus of claim 1, wherein the discrimination criterion is used to distinguish between fast VT and VF, and if the discrimination criterion is met, the tachyarrhythmia is determined to be a fast ventricular tachycardia, the first therapy is delivered; and if the discrimination criterion is not met, the tachyarrhythmia is determined to be fibrillation and the second therapy is delivered.

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8.   (Previously added) The apparatus of claim 1, wherein the discrimination criterion is used to distinguish between VT and fast ventricular rhythms due to atrial fibrillation (VT vs. AF), and if the discrimination criterion is met, the tachyarrhythmia is determined to be a ventricular tachycardia and a tachycardia therapy is delivered; and if the discrimination criterion is not met, the tachyarrhythmia is determined to be due to atrial fibrillation and no therapy is delivered.

9.   (Previously added) The apparatus of claim 1, wherein the predetermined threshold number of intervals required in order to meet the discrimination criterion is variable as a function of the underlying rate of the detected tachyarrhythmia.

10.   (Previously added) The apparatus of claim 9, wherein the threshold number varies as a decreasing function of the tachyarrhythmia cycle lengths of a preceding series of depolarizations; and wherein the 75th percentile cycle length of the preceding sequence of depolarizations is employed as a measurement metric, with the threshold number of intervals expressed as a percentage of intervals binned decreasing from 100% to 30% in a linear fashion as the 75th percentile cycle length increases.

11.   (Previously added) The apparatus of claim 10, wherein the 75th percentile cycle length of the preceding series of depolarizations is calculated by selecting the fourth longest interval out of the preceding twelve measured depolarization intervals.